Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-11. (Canceled)

12. (Currently amended) A method for determining the biological effect and/or activity of at least one pharmaceutical composition, comprising the steps of:

(a) obtaining a biological sample A containing DNA, said biological sample A being from at least one of an individual, a tissue, a cell or another biological material containing DNA, wherein said biological sample A was exposed to said at least one pharmaceutical composition, wherein said biological sample A is obtained from biological material of a diseased individual;

(b) obtaining a biological sample B containing DNA, said biological sample B being from at least one of an individual, a tissue, a cell or another biological material containing DNA, wherein said biological sample B was not exposed to said at least one pharmaceutical composition, wherein said biological sample B is obtained from biological material of a diseased individual;

(c) then, analyzing the level of cytosine methylation at chosen sites of the DNA contained in the biological samples A and B, characterized in that the level of at least 100 cytosine methylation sites is analyzed in parallel, wherein said analyzing step is performed using a

suitably programmed computer;

(d) selecting those of said chosen sites which are differentially methylated between the DNA in biological samples A and B, whereby a knowledge base is generated, wherein said selecting step is performed using a suitably programmed computer; and

(e) concluding from said knowledge base a biological effect and/or activity that said at least one pharmaceutical composition has on said biological sample A in step (a) and communicating the conclusion to a computer via an internet or intranet connection, wherein said concluding step is performed using a suitably programmed computer.

Claims 13-21. (Canceled)

22. (Currently amended) A method for determining the biological effect and/or activity of at least one pharmaceutical composition, comprising the steps of:

(a) obtaining a biological sample A containing DNA, said biological sample A being from at least one of an individual, a tissue, a cell or another biological material containing DNA, wherein said biological sample A was exposed to said at least one pharmaceutical composition, wherein said biological sample A is obtained from biological material of a diseased individual;

(b) obtaining a biological sample B containing DNA, said biological sample B being from at least one of an individual, a tissue, a cell or another biological material containing DNA, wherein said biological sample B was not exposed to said at least one pharmaceutical

composition, wherein said biological sample B is obtained from biological material of a diseased individual;

(c) then, analyzing the level of cytosine methylation at chosen sites of the DNA contained in the biological samples A and B, wherein said analyzing step is performed using a suitably programmed computer;

(d) selecting those of said chosen sites which are differentially methylated between the DNA in biological samples A and B, whereby a knowledge base is generated, characterized in that at least 100 sites are selected in parallel, wherein said selecting step is performed using a suitably programmed computer; and

(e) concluding from said knowledge base a biological effect and/or activity that said at least one pharmaceutical composition has on said biological sample A in step (a) and communicating the conclusion to a computer via an internet or intranet connection, wherein said concluding step is performed using a suitably programmed computer.

Claims 23-26. (Canceled)

27. (Currently amended) A method for determining the biological effect and/or activity of at least one pharmaceutical composition, comprising the steps of:

(a) obtaining a biological sample A containing DNA, said biological sample A being from at least one of an individual, a tissue, a cell or another biological material containing DNA,

wherein said biological sample A was exposed to said at least one pharmaceutical composition, wherein said biological sample A is obtained from biological material of a diseased individual;

(b) obtaining a biological sample B containing DNA, said biological sample B being from at least one of an individual, a tissue, a cell or another biological material containing DNA, wherein said biological sample B was not exposed to said at least one pharmaceutical composition, wherein said biological sample B is obtained from biological material of a diseased individual;

(c) then, analyzing the level of cytosine methylation at chosen sites of the DNA contained in the biological samples A and B, wherein said analyzing step is performed using a suitably programmed computer;

(d) selecting those of said chosen sites which are differentially methylated between the DNA in biological samples A and B, whereby a knowledge base is generated, wherein said selecting step is performed using a suitably programmed computer;

(e) repeating steps a) to d); and

(f) concluding from said knowledge base a biological effect and/or activity that said at least one pharmaceutical composition has on said biological sample A in step (a) and communicating the conclusion to a computer via an internet or intranet connection, wherein said concluding step is performed using a suitably programmed computer.

Claim 28. (Canceled)

29. (Currently amended) A method for determining the biological effect and/or activity of at least one pharmaceutical composition, comprising the steps of:

(a) obtaining a biological sample A containing DNA, said biological sample A being from at least one of an individual, a tissue, a cell or another biological material containing DNA, wherein said biological sample A was exposed to said at least one pharmaceutical composition, wherein said biological sample A is obtained from biological material of a diseased individual;

(b) obtaining a biological sample B containing DNA, said biological sample B being from at least one of an individual, a tissue, a cell or another biological material containing DNA, wherein said biological sample B was not exposed to said at least one pharmaceutical composition, wherein said biological sample B is obtained from biological material of a diseased individual;

(c) then, analyzing the level of cytosine methylation at chosen sites of the DNA contained in the biological samples A and B, wherein said analyzing step is performed using a suitably programmed computer;

(d) selecting those of said chosen sites which are differentially methylated between the DNA in biological samples A and B, whereby a knowledge base is generated, wherein said selecting step is performed using a suitably programmed computer;

(e) repeating steps c) to d); and

(f) concluding from said knowledge base a biological effect and/or activity that said at

least one pharmaceutical composition has on said biological sample A in step (a) and communicating the conclusion to a computer via an internet or intranet connection, wherein said concluding step is performed using a suitably programmed computer.

30. (Currently amended) A method for determining the biological effect and/or activity of at least one pharmaceutical composition, comprising the steps of:

(a) obtaining a biological sample A containing DNA, said biological sample A being from at least one of an individual, a tissue, a cell or another biological material containing DNA, wherein said biological sample A was exposed to said at least one pharmaceutical composition, wherein said biological sample A is obtained from biological material of a diseased individual;

(b) obtaining a biological sample B containing DNA, said biological sample B being from at least one of an individual, a tissue, a cell or another biological material containing DNA, wherein said biological sample B was not exposed to said at least one pharmaceutical composition, wherein said biological sample B is obtained from biological material of a diseased individual;

(c) then, analyzing the level of cytosine methylation at chosen sites of the DNA contained in the biological samples A and B, wherein said analyzing step is performed using a suitably programmed computer;

(d) selecting those of said chosen sites which are differentially methylated between the DNA in biological samples A and B, whereby a knowledge base is generated, wherein said

selecting step is performed using a suitably programmed computer; and

(e) concluding from said knowledge base a biological effect and/or activity that said at least one pharmaceutical composition has on said biological sample A in step (a) and communicating the conclusion to a computer via an internet or intranet connection, wherein said concluding step is performed using a suitably programmed computer;

(f) wherein said method is repeated at least 5 to 50 times.

Claims 31-44. (Canceled)